MISSOURI DEPARTMENT OF NATURAL RESOURCES

Total Maximum Daily Load Information Sheet

Meramec River

Water Body Segment at a Glance:

Counties:	St. Louis and Jefferson
Nearby Cities:	Pacific and Arnold
Water Body IDs:	2183 (22.8 miles) 2185 (15.7 miles)
Pollutant:	Lead in sediment
Source:	Old lead belt tailings


State Map Showing Location of Watershed

Scheduled for TMDL development:
TMDL development schedules are subject to change.
The most current schedule for TMDL development is available on the department's website at dnr.mo.gov/env/wpp/tmdl/wpc-tmdl-progress.htm

Description of the Problem

A water body is considered impaired when it fails to meet applicable water quality standards. Water quality standards consist of designated uses, water quality criteria, an antidegradation policy and implementation procedures. Center Creek is impaired due to exceedances of state water quality criteria that protect aquatic life designated uses.

Designated uses of Meramec River*

- Warm Water Habitat (WWH)
- Cool Water Habitat (CLH) ← Water body 2185 only
- Whole Body Contact Category A (WBC-A)
- Secondary Contact Recreation (SCR)
- Human Health Protection (HHP)
- Irrigation (IRR)
- Livestock and Wildlife Protection (LWP)
- Industrial Water Supply (IND)
- Drinking Water Supply (DWS)

* In addition to these specific uses, all waters of the state are protected by the general water quality criteria that are specified in the state's Water Quality Standards at 10 CSR 20-7.031(4).

Revised 2/2015

Uses that are impaired

- Warm Water Habitat (WWH)
- General Criteria

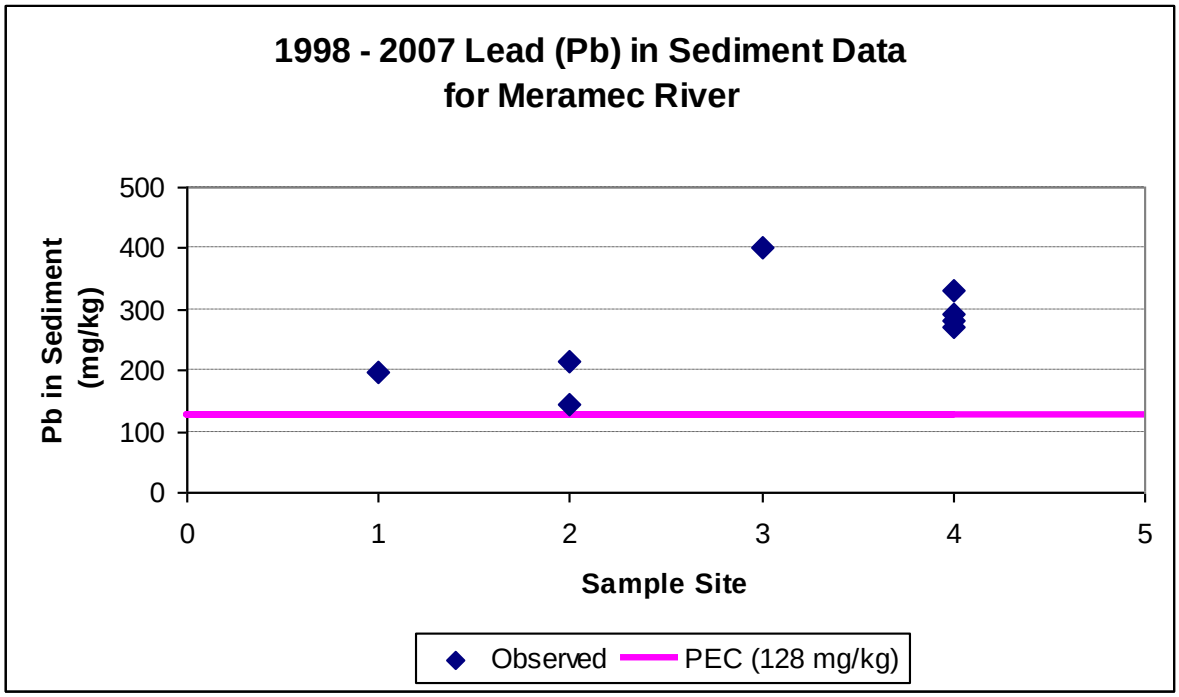
Criteria that apply

- There are no specific sediment toxicity criteria in Missouri's Water Quality Standards, however all Missouri water bodies are protected by the general (narrative) criteria found at 10 CSR 20-7.031(4). The particular general criteria that apply to the Meramec River's lead in sediment impairment include:

  (D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.
  (G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.

Background information and water quality data

The lead in sediment impairment begins where the Big River flows into the Meramec, bringing contaminated mining tailings that have eroded from piles in Bonne Terre, Desloge and Leadwood. The impairment is based on data collected by the department in 1998, 1999, 2006 and 2007. Eight of eight sediment samples exceeded 150 percent of the probable effect concentrations, or PECs, recommended by McDonald, et. al[1] to assess sediment toxicity. PECs are the concentrations at which some toxic effect on aquatic life is likely and are used as a numeric translator of the general criteria. For lead, that number is 128 mg/kg (milligrams per kilograms or parts per million).

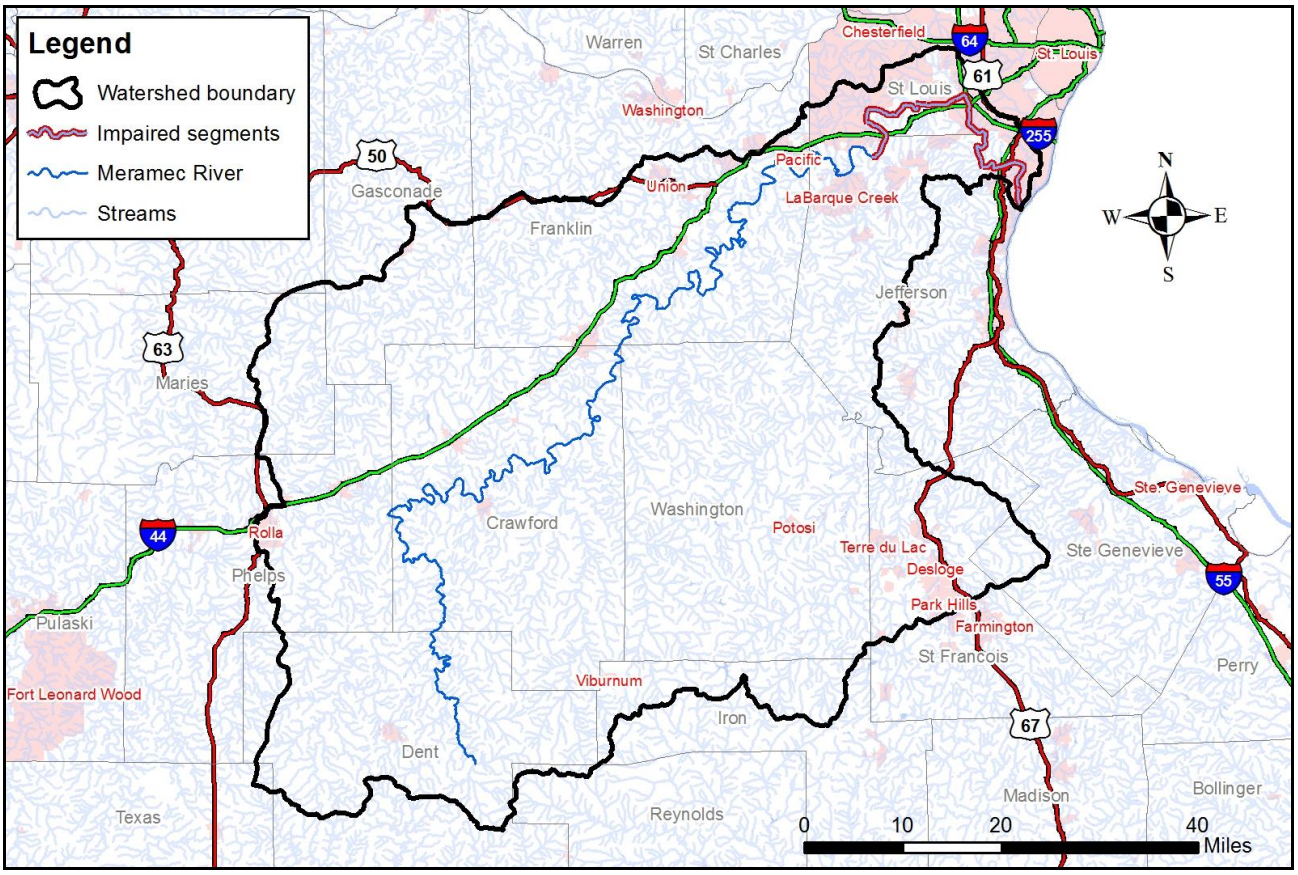


[1] *Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems*, D. MacDonald, et al., 2000

TMDL for the Meramec River

The Meramec River TMDL will calculate the maximum amount of each listed pollutant that the stream can receive and still meet water quality standards. The TMDL will also identify all potential or suspected pollutant sources in the watershed and distribute the allowable pollutant loads among those various sources. When developed, the Meramec River TMDL will use the most current and available data. For this reason, the final TMDL may present information that differs from that contained in this information sheet.

Map showing the Meramec River watershed



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